

# John Henry Holland Quotes

*Building, Block, Innovation, Action, Agents, Flow, Firsts, Program, Given, Taste,  
Clear, Inspiration, Art, Should, Each Day, Looking Forward, Views,  
Complicated, Recycling, Fundamentals*

nonlinear interactions almost always make the behavior of the aggregate more complicated than would be predicted by summing or averaging.

~John Henry Holland

Evolution continually innovates, but at each level it conserves the elements that are recombined to yield the innovations.

~John Henry Holland

If we are to understand the interactions of a large number of agents, we must first be able to describe the capabilities of individual agents.

~John Henry Holland

If there is to be a competition, there must be some basis for resolving it. It is also clear that the competition should be experienced based.

~John Henry Holland

The recycling of resource by the aggregate behavior of a diverse array of agents is much more than the sum of the individual actions.

~John Henry Holland

Unwrapping occurs when the "solution" is explicitly built into the program from the start.

~John Henry Holland

Particular individuals do not recur, but their building blocks do.

~John Henry Holland

Looking back to data, we can see if the consequences are plausible; looking forward to theory, we can see if general principles are suggested.

~John Henry Holland

This use of building blocks to generate internal models is a pervasive

feature of complex adaptive systems.

~John Henry Holland

From the point of view of physics, it is a miracle that [seven million New Yorkers are fed each day] without any control mechanism other than sheer capitalism.

~John Henry Holland

The measure of performance of any given agent is the amount of money it accumulates through its actions.

~John Henry Holland

When a new building block is discovered, the result is usually a range of innovations.

~John Henry Holland

The multiplier effect is a major feature of networks and flows. It arises regardless of the particular nature of the resource, be it goods, money, or messages.

~John Henry Holland

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